Amendments to the Claims

The following listing of the claims is intended to replace all previous versions and/or listings of the claims in the present application:

Claim 1 (Currently Amended) A system for processing at least one substrate comprising:

a process chamber for receiving a process fluid;

an acoustical energy source;

an acoustical stack for transmitting acoustical energy from the acoustical energy source to process fluid in the process chamber, the acoustical stack ~~having a first transmission layer and a second transmission layer~~ comprising three or more consecutive transmission layers including a first transmission layer in contact with the acoustical energy source and a last transmission layer in contact with process fluid in the process chamber;

~~the first transmission layer located between the acoustical energy source and the second transmission layer, and having a first acoustical impedance value; and~~

~~the second transmission layer located between the first transmission layer and process fluid in the process chamber, and having a second acoustical impedance value that is less than the first acoustical impedance value~~

wherein from the first transmission layer to the last transmission layer, each transmission layer in the acoustical stack has an acoustical impedance value that is less than an acoustical impedance value of a consecutively preceding transmission layer.

Claim 2 (Cancelled)

Claim 3 (Currently Amended) The system of claim 1 ~~2~~ wherein the first transmission layer is made of aluminum, titanium, or beryllium~~, the second transmission layer is made of quartz, and the acoustical energy source comprises piezoelectric crystals~~.

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Claim 4 (Cancelled)

Claim 5 (Cancelled)

Claim 6 (Currently Amended) The system of claim 1 wherein the number of consecutive transmission layers in the acoustical stack is three, including a second ~~further comprising a third~~ transmission layer consecutively located between the first ~~second~~ transmission layer and the last transmission layer ~~process fluid in the process chamber, and having a third acoustical impedance value that is less than the second acoustical impedance~~.

Claim 7 (Original) The system of claim 6 wherein the second transmission layer is a rigid plate for mounting the acoustical stack to the process chamber.

Claim 8 (Currently Amended) The system of claim ~~7~~ 6 wherein the first transmission layer is made of aluminum, titanium, or beryllium, the second transmission layer is made of quartz, the last ~~third~~ transmission layer is made of PCTFE, ECTFE, PVDF, FEP, or PFA and the acoustical energy source comprise piezoelectric crystals.

Claim 9 (Currently Amended) The system of claim 1 ~~further comprising a process fluid in the process chamber~~, the process fluid having an acoustical impedance value less than the ~~third~~ acoustical impedance value of the last transmission layer.

Claim 10 (Original) The system of claim 9 wherein the acoustical impedance value of the process fluid is in the range of approximately 0.8 to 2.5 Mrayl.

Claim 11 (Currently Amended) The system of claim 1 wherein the acoustical energy source has an acoustical impedance value that is less than the ~~first~~ acoustical impedance value of the first transmission layer.

Claim 12 (Currently Amended) The system of claim 1 wherein the acoustical energy source has an acoustical impedance value that is greater than the ~~first~~ acoustical impedance value of the first transmission layer.

Claim 13 (Currently Amended) A method of processing a substrate comprising:

providing a system comprising a process chamber ~~at least partially filled with a process fluid~~, an acoustical energy source, an acoustical stack ~~having a first transmission layer and a second transmission layer and~~ forming an acoustical energy pathway from the acoustical energy source to a process fluid in the process chamber, the acoustical stack comprising three or more consecutive transmission layers including a first transmission layer in contact with the acoustical energy source and a last transmission layer in contact with the process fluid in the process chamber, ~~the first transmission layer located between the acoustical energy source and the second transmission layer and having a first acoustical impedance value, and the second transmission layer located between the first transmission layer and process fluid in the process chamber, and having a second acoustical impedance value that is less than the first acoustical impedance value~~ wherein from the first transmission layer to the last transmission layer, each transmission layer in the acoustical stack has an acoustical impedance value that is less than an acoustical impedance value of a consecutively preceding transmission layer;

~~submerging~~ contacting a ~~the~~ substrate with ~~in~~ the process fluid;

creating acoustical energy with the acoustical energy source; and

transmitting the acoustical energy to the process fluid via the acoustical stack.

Claim 14 (Cancelled)

Claim 15 (Currently Amended) The method of claim 13 ~~14~~ wherein the first transmission layer is made of aluminum, titanium, or beryllium~~, the second transmission layer is made of quartz, and the acoustical energy source comprises piezoelectric crystals~~.

Claim 16 (Cancelled)

Claim 17 (Cancelled)

Claim 18 (Currently Amended) The method of claim 13 wherein the number of consecutive transmission layers in the acoustical stack is three, including a second ~~further comprising a third~~ transmission layer consecutively located between the first ~~second~~ transmission layer and the last

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transmission layer ~~process fluid in the process chamber, and having a third acoustical impedance value that is less than the second acoustical impedance~~.

Claim 19 (Original) The method of claim 18 wherein the second transmission layer is a rigid plate for mounting the acoustical stack to the process chamber.

Claim 20 (Currently Amended) The method of claim 18 ~~19~~ wherein the first transmission layer is made of aluminum, titanium, or beryllium, the second transmission layer is made of quartz, the ~~third~~ last transmission layer is made of PCTFE, ECTFE, PVDF, or PFA and the acoustical energy source comprise piezoelectric crystals.

Claim 21 (Currently Amended) The method of claim 20 wherein the process fluid has an acoustical impedance value less than the ~~third~~ acoustical impedance value of the last transmission layer.

Claim 22 (Original) The method of claim 21 wherein the acoustical impedance value of the process fluid is in the range of approximately 0.8 to 2.5 Mrayl.

Claim 23 (Original) The method of claim 13 wherein the process fluid comprises DI-water and the method further comprises removing contaminants from the substrate.

Claim 24 (Original) The method of claim 13 wherein the process fluid comprises ozone and the method further comprises stripping photoresist from the substrate.

Claim 25 (Currently Amended) The method of claim 13 wherein the acoustical energy source has an acoustical impedance value that is less than the ~~first~~ acoustical impedance value of the first transmission layer.

Claim 26 (Currently Amended) The method of claim 13 wherein the acoustical energy source has an acoustical impedance value that is ~~less~~ greater than the ~~first~~ acoustical impedance value of the first transmission layer.

Claim 27 (New) The system of claim 1 wherein the first transmission layer is made of aluminum, titanium, or beryllium.

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Claim 28 (New) The system of claim 6 wherein the second transmission layer is made of quartz.

Claim 29 (New) The system of claim 1 wherein the last transmission layer is made of PCTFE, ECTFE, PVDF, FEP, or PFA.

Claim 30 (New) The method of claim 13 wherein the first transmission layer is made of aluminum, titanium, or beryllium.

Claim 31 (New) The method of claim 18 wherein the second transmission layer is made of quartz.

Claim 32 (New) The method of claim 13 wherein the last transmission layer is made of PCTFE, ECTFE, PVDF, FEP, or PFA.

Claim 33 (New) The method of claim 13 wherein the contacting step comprises submerging the substrate in the process fluid.